Table. Predictors of Recurrent Chest Pain based on 3-year Clinical Outcomes.

Variable	Multivariable analysis Odds Ratio (95% C.I)	P Value
Age	1.00 (0.98-1.02)	0.351
Male	1.39 (0.84-2.29)	0.188
Body mass index	0.96 (0.89-1.03)	0.290
Hypertension	1.01 (0.65-1.55)	0.958
Diabetes	1.07 (0.59-1.96)	0.809
Dyslipidemia	1.75 (1.07-2.85)	0.025
Current Smokers	1.32 (0.79-2.21)	0.280
Current alcoholics	0.77 (0.48-1.24)	0.296
Family history of CAD	0.50 (0.12-2.05)	0.337
Myocardial bridge	1.04 (0.65-1.68)	0.846
Baseline CAS (narrowing >30%)	1.91 (1.26-2.88)	0.002
Diffuse CAS (length >30mm)	1.48 (0.77-2.84)	0.239
Multi-vessel CAS	1.26 (0.83-1.93)	0.271
FCL	1.31 (0.85-2.03)	0.213

* CAD indicates coronary artery disease, CAS; coronary artery spasm, FCL; Fixed atherosclerotic -coronary lesion.

CRT-154

The Role of Cardio-Ankle Vascular Index (CAVI) as an Indicator of the Severity of Coronary Artery Disease - Virtual Histology Intravascular Ultrasound Analysis

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Background: Cardio-Ankle Vascular Index (CAVI) was developed as a parameter of atherosclerosis that does not depend on the blood pressure than pulse wave velocity (PWV). We assessed the predictive value of CAVI as an indicator of coronary artery disease and whether it reflects the severity of CAD.
Method: We assessed CAVI in 474 patients before undergoing coronary angiography. 207 patients had normal coronary angiogram, and 267 patients were confirmed to have coronary artery disease. IVUS analysis of the culprit lesion was done. VH-IVUS-defined thin-capped fibroatheroma (VH-TCFA) had necrotic core (NC) >10% of plaque area, plaque burden >40%, and NC in contact with the lumen for ≥3 image slices.
Results: CAVI was higher in patients with coronary artery disease than normal patients (8.96±1.54 vs 8.03±1.39, p=0.03). Among patient with coronary artery disease, patients with multi-vessel disease showed higher value of CAVI (8.76±1.53 vs 8.23±1.26, p=0.001). IVUS analysis of the culprit lesion was amenable in 102 pts who were divided into 2 groups: CAVI< 9(52pts) and CAVI≥ 9(50pts). While minimal lumen area, plaque burden and remodeling index were similar, lesion length were longer in CAVI ≥ 9 group. CAVI showed correlation with lesion length (r=0.615, p<0.001), whereas not with minimal lumen area (r=-0.048, p=0.672). Among 4 components (fibrotic, fibrofatty, necrotic, calcium), lesion maximal calcium (%) was higher in CAVI ≥ 9 group and also showed correlation with CAVI (r=0.521, p<0.001). The frequency of VH-TCFA phenotype was similar between the two groups (19/52 (36.5%) vs 17/50(34%), p=0.263).
Conclusions: High CAVI value might suggest more severe (longer lesion length) and greater coronary artery disease complexity (more calcified coronary plaque).

	CAVI < 9 (n=52)	CAVI ≥ 9 (n=50)	P value
Lesion length (mm)	15.94±5.86	20.68±5.76	<0.001
Distal reference lumen area (mm^2)	6.71±3.28	7.03±2.52	0.619
MLA lumen area (mm^2)	2.66±1.15	2.59±0.84	0.941
MLA plaque burden (%)	78.37±8.58	78.78±7.60	0.823
Remodeling index (MLA site)	0.84±0.18	0.78±0.16	0.117
Necrotic core (%) (max. NC site)	33.87±9.41	32.83±9.09	0.614
Dense calcium (%) (max. NC site)	9.12±8.02	9.82±7.18	0.682
Lesion Max. dense calcium (%)	11.48±10.43	18.71±10.59	0.003

CRT-155

Forced Diuresis with Matched Hydration Using the Renalguard® System for the Prevention of Contrast Induced Acute Kidney Injury - A Single Center Experience

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Background: Contrast-induced acute kidney injury (CI-AKI) is a frequent complication of coronary angiography associated with unfavorable outcome. Recently, two randomized controlled trials have demonstrated that furosemide induced diuresis with matched isotonic intravenous hydration using the RenalGuard system reduces the risk of CI-AKI in high-risk patients undergoing coronary procedures. The efficacy and safety of this strategy has never been reported in real life practice.
Methods: We analyzed data of patients at high risk to develop CI-AKI who were hospitalized in our cardiology department for acute coronary syndrome from August 2012 to September 2013 and were treated with the RenalGuard system during coronary angiography with or without angioplasty. The AKI rate was compared to a novel tool for accurate prediction of CI-AKI.
Results: 51 high risk patients were enrolled, 66% males, mean age of 74 ± 9 years, 93% where hypertensive and 55% were diabetics. Mean ejection fraction was 46±13%, mean eGFR was 37±13 ml/min/1.73m^2 and mean baseline hemoglobin was 11.4±1.8 g/dL. The mean volume of contrast media delivered was 84±34 ml (25 - 172). According to a novel prediction tool patients in this group had a calculated risk of 10.5% for CI-AKI and 1.4% risk of requiring dialysis.

Forced dieresis was achieved with mean IV normal saline bolus of 260±70 ml, and mean IV furosemide of 55±38 mg, achieving a mean urine rate of 443±258 ml/hr at the beginning of the procedure. Monitored by the RenalGuard system patients received a mean IV hydration saline of 2209 ± 1154 ml closely matched to mean urine output of 2486±1173 ml, during a mean time of 5 hours and 45 minutes.

3 patients (5.8%) developed CI-AKI as defined by >0.5 mg/dl or >25% rise in serum creatinine at 48-72 h post contrast administration and non required dialysis. 2 Patients (3.9%) developed dyspnea during the treatment, and one patient (1.8%) had peripheral venous catheter phlebitis. There was no urinary tract infection, no hypokalemia and no hypernatremia in 48-72 hours following the procedure.
Conclusion: Forced diuresis with matched IV hydration is safe and reduces the risk of CI-AKI in real world high risk patients.

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Percutaneous Treatment of Refractory Heart Failure Secondary to Old Myocardial Infarction by Anteroapical Splinting Stent in the Left Anterior Descending Coronary

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Background: Determine the therapeutic effect of splinting with stenting the LAD. Improve the NYHA functional class. Improve the ejection fraction.
Methods: A total of 48 patients between 62 and 74 years old, 31 men and 17 women, from October 2009 through February 2013. We established a randomized study, 2 groups each one with 24 patients. All patients suffered refractory heart failure with left fraction ejection less than 30% in class III and IV (NYHA classification). Transthoracic echocardiogram was performed at admission, 6 and 12 months, nuclear imagine was done the day after improving their medical conditions, all studies shows no viability in this territory and coronary angiography was done the next day. All patients suffered from LAD disease only, and the vessel was patent in every one. We deliver bare metal stents from distal to proximal, the stents used are from 2.5mm to 3.5mm in diameter and 28 to 36mm long. We performed coronary angiography and ventriculography by femoral access then in the most severe lesions we made angioplasty before delivering the stents as we mentioned. All stents were spliced together with 5 mm each from distal to proximal just to the main lesion. All patients are reassessed clinically each month and an echocardiography study was performed at 6 and 12 months.
Results: The functional class improves in all the patients from the experimental group (24 patients), 21 patients pass to II functional class and only 3 patients stayed in III